What is claimed is:

1. A complex objective lens having a convex aspherical surface shape comprising:

a first optical element having a first surface including a convex aspherical surface shape and an opposite side surface opposing to the first surface; and

a second optical element having an exit surface through which an optical beam passing and an entry surface opposing to the exit surface,

wherein the opposite side surface opposing to the first surface of the first optical element and the entry surface opposing to the exit surface of the second optical element are directly contacted to each other.

2. A complex objective lens according to claim 1, wherein the first optical element has a refractive index larger than the refractive index of the second optical element.

3. A complex objective lens according to claim 1, further comprising an intermediate directly interposed on and between the opposite side surface opposing to the first surface of the first optical element and the entry surface opposing to the exit surface of the second optical element to connect the first and second optical elements.

4. A complex objective lens according to claim 3, wherein the intermediate film has a refractive index larger than the refractive index of the second optical element and the first optical element has a refractive index larger than the refractive index of the intermediate film.

5. A complex objective lens according to claim 1, wherein the convex aspherical surface shape of said first optical element includes a center curvature radius in a range of length equal to and larger than a radius of a ball having the same volume as a volume of the first optical element and smaller than a radius of a ball having the same volume as a total volume of the first and second optical elements.

6. A complex objective lens according to claim 1, wherein a center curvature radius rA of said the convex aspherical surface shape of the first optical element satisfies a formula below:

$$\sqrt[3]{\frac{3}{4\pi}V1} \leq rA < \sqrt[3]{\frac{3}{4\pi}(V1+V2)} \qquad (1)$$

wherein V1 denotes a volume of the first optical element, and V2 denotes a volume of the second optical element.

7. A complex objective lens according to claim 1, wherein the first and second optical element are made of a glass material, the opposite side surface opposing to the first surface of the first optical element and the entry surface opposing to the exit surface of the second optical element are formed by being contacted and abraded to make close adherence to one another.

8. An optical pickup device characterized by comprising a complex objective lens including: a first optical element having a first surface including a convex aspherical surface shape and an opposite side surface opposing to the first surface; and

a second optical element having an exit surface through which an optical beam passing and an entry surface opposing to

the exit surface,

wherein the opposite side surface opposing to the first surface of the first optical element and the entry surface opposing to the exit surface of the second optical element are directly contacted to each other.

9. An optical recording/reproducing apparatus characterized by comprising an optical pickup device having a complex objective lens including: a first optical element having a first surface including a convex aspherical surface shape and an opposite side surface opposing to the first surface; and

a second optical element having an exit surface through which an optical beam passing and an entry surface opposing to the exit surface,

wherein the opposite side surface opposing to the first surface of the first optical element and the entry surface opposing to the exit surface of the second optical element are directly contacted to each other.

10. A method for manufacturing a complex objective lens having a convex aspherical surface shape comprising the steps of:

providing a first optical element having a first surface including a convex aspherical surface shape and an opposite side surface opposing to the first surface, and a second optical element having an exit surface through which an optical beam passing and an entry surface opposing to the exit surface;

directly contacting and abrading said first and second optical element at the opposite side surface opposing to the first

surface of the first optical element and the entry surface opposing to the exit surface of the second optical element; and

applying said second optical element to the first optical element.

11. A method according to claim 10, further comprising a step of monitoring a thicknesses of the first and second optical elements in the abrading step to stop to abrade the first and second optical elements at a time that a predetermined optical thickness is obtained.

12. A method according to claim 10, further comprising a step of providing an intermediate film between the opposite side surface opposing to the first surface of the first optical element and the entry surface opposing to the exit surface of the second optical element, after the abrading step.